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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/796,048

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Hideki Kamada

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10/31/2008

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

STEELE, JENNIFER A

ART UNIT

PAPER NUMBER

1794

NOTIFICATION DATE

DELIVERY MODE

10/31/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/796,048	Applicant(s) KAMADA ET AL.	
	Examiner JENNIFER STEELE	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 23-26 is/are pending in the application.
- 4a) Of the above claim(s) 5-8 and 13-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9-12, 17-21 and 23-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. **Claim 1-3, 10-11, 18-19, 21-22 and 25-26 rejected under 35 U.S.C. 102(b) as being anticipated by Toray (JP 49100327A as published in Derwent 1975-34944W).**

As to claims 1, 21, 25 and 26, Toray teaches acrylic-vinyl blend as paper substitutes that comprise polyvinyl alcohol, polyacrylonitrile and acrylonitrile vinyl alcohol graft copolymers that are spun through noncircular orifices to form flat fibers. Toray teaches that the flat fibers are spun through orifice sized at 0.04 x 0.5 mm (40-500 micron) to produce flat fibers with a width of 37.5 micron and thickness of 3.4 micron. The fiber thickness is equated with the current application's mean thickness **D** and is in the range 0.4 and 5 micron as claimed.

2. Claim 2, 10 and 18 rejected under 35 U.S.C. 102(b) as being anticipated by Toray (JP 49100327A as published in Derwent 1975-34944W). Toray anticipates an **L/D** of 10-50 and teaches an **L/D** of 11 (equal to 37.5/3.4).

3. Claim 3, 11 and 19 rejected under 35 U.S.C. 102(b) as being anticipated by Toray (JP 49100327A as published in Derwent 1975-34944W). Toray anticipates branched flattened fibers and teaches the fibers are beaten to fibrillate and produce a pulp having freeness of 305 cm³.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claim 9 and 17 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Toray.** Toray teaches acrylic-vinyl blend as paper substitutes that comprise polyvinyl alcohol, polyacrylonitrile and acrylonitrile vinyl alcohol graft copolymers that are spun through noncircular orifices to form flat fibers. Toray teaches branched flattened fibers and teaches the fibers are beaten to give a pulp having freeness of 305 cm³. As to claims 9 and 17, Toray teaches beating the fibers to fibrillate into pulp. Toray refers to fibers for manufacturing paper substitutes and is referencing a process for producing wet laid nonwoven. Toray differs and does not teach a dry laid process and Toray does not teach fibrillating the fibers by water jet or needlepunching. The method of preparing the nonwoven and the method of fibrillating the fibers does not distinguish the material of the current application over the prior art of Toray. It should be noted that even though product-by-process claims are

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limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same or an obvious variant from a product of the prior art, the claim is unpatentable even though a different process made the prior product. In re Thorpe, 227 USPQ 964,966 (Fed. Cir. 1985). The burden has been shifted to the Applicant to show unobvious differences between the claimed product and the prior art product. In re Marosi, 218 USPQ 289,292 (Fed. Cir. 1983).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. **Claim 9 and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Toray (JP 49100327A as published in Derwent 1975-34944W) in view of Ohmory et**

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al (US 5,972,501). Toray teaches acrylic-vinyl blend as paper substitutes that comprise polyvinyl alcohol, polyacrylonitrile and acrylonitrile vinyl alcohol graft copolymers that are spun through noncircular orifices to form flat fibers. Toray teaches branched flattened fibers and teaches the fibers are beaten to give a pulp having freeness of 305 cm³. As to claims 9 and 17, Toray differs and teaches beating the fibers to fibrillate into pulp and differs from the current application and does not teach a process of fibrillating the fibers by a water jet or needlepunching.

Ohmory teaches an easily fibrillatable fiber of vinyl alcohol based fibers wherein the fibers are formed by melt spinning through an orifice. Ohmory teaches the fibers can be fibrillated by method of beating or preferably by a method of applying a high-pressure water jet onto the web (col. 10, lines 59-67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a method of high-pressure water jet to the fibers of Toray motivated to fibrillate the fibers to produce a fabric capable of absorption.

6. Claim 1, 4, 12 and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Toray (JP 49100327A as published in Derwent 1975-34944W) in view of Howard (US 5230949). Toray teaches acrylic-vinyl blend as paper substitutes that comprise polyvinyl alcohol, polyacrylonitrile and acrylonitrile vinyl alcohol graft copolymers that are spun through noncircular orifices to form flat fibers. Toray differs from the current application and does not teach a filler material.

Howard teaches fibers or filaments prepared with a filler material and extruded to form fibers that may be formed into nonwoven webs. The fillers can be minerals such as mica, montmorillonite or siliceous fillers that also include mica's vermiculite (col. 3, lines 4-25). Fillers are used to improve properties of the polymer fiber including mechanical and thermal properties. This invention is motivated to improve wettability or absorption. Howard teaches filler amounts of 10-90% by volume of fibers, but preferably between 40-60% (col. 4, lines 43-51). The average particle size of the filler is preferably 0.01-10 microns. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine to add an inorganic filler material to the polyvinyl alcohol fibers motivated to improve the properties of the PVA fibers.

7. Claim 23 and 24 rejected under 35 U.S.C. 103(a) as being unpatentable over Toray (JP 49100327A as published in Derwent 1975-34944W) in view of Ueda et al (US 5,208,104). Toray teaches a flat fiber of the dimensions of the current application and teaches flat fibers that are comprised of polyvinyl alcohol, polyacrylonitrile and acrylonitrile vinyl alcohol graft copolymers. Toray differs from the current application and does not teach a polymer produced from only PVA polymer. Ueda teaches a PVA fiber produced of a method of spinning a fiber with only PVA resin (col. 6, lines 35-38). Toray teaches a PVA graft copolymer that has the dimensions of a flat fiber as claimed in the current application and Toray presents a finding that it is known in the art to produce a PVA fiber with a flat structure. Ueda teaches that PVA fibers can be produced that consists of only PVA and presents a finding that it is known in the art to produce a fiber that consists only of PVA. Therefore it would have been obvious to one

of ordinary skill in the art at the time the invention was made to employ the technique of Toray to produce a flat fiber that consists of only PVA motivated to produce a PVA fiber with the desired structure of flatness.

Response to Arguments

8. Applicant's arguments and amendment, with respect to claims 23 and 24 have been fully considered and are persuasive. The 35 USC 112 1st paragraph rejection of claims 23 and 24 has been withdrawn.

9. Applicant's arguments filed 8/14/2008 have been fully considered but they are not persuasive. Applicant's arguments and amendments are not sufficient to overcome the 35 USC 102(b) rejection of claims 1-3, 10-11, 18-19 and 21 with respect to Toray and the 35 USC 102(b)/103(a) rejection of claims 9 and 17 with respect to Toray. The 35 USC 103(a) rejections with respect Toray in view of Ohmory, Toray in view of Howard and Toray in view of Ueda are maintained and the rejection of Toray in view of Ueda would be applied to new claims 25 and 26 as well as amended claims.

Applicant's arguments that the Toray does not anticipate the polyvinyl alcohol fiber of claims 1 and 21 are not persuasive. The claims recite a polyvinyl alcohol fiber and Toray teaches a polyvinyl alcohol based fiber of 8-45% weight percent polyvinyl alcohol. Claims 1 and 21 do not exclude an additional polymer or composition and the previous Office Action is maintained. As claims 1 and 21 recite the limitation of polyvinyl alcohol fiber in the preamble, a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and

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where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). As Applicant's claims 23 and 24 recite the limitation that the fiber consists of polyvinyl alcohol, these claims exclude other components and are not anticipated by Toray and the previous Office Action 103(a) rejection to Toray in view of Ueda is maintained.

10. Applicant argues that the polyvinyl alcohol fiber of Toray uses a blend of polyacrylonitrile which is detrimental to the hydrolysis resistance of the fibers of Toray and Applicant is teaching a chemical resistance polyvinyl alcohol fiber. The data presented by the Applicant compares fibers of different cross-sectional profiles and the properties of fibrillability, hydrophilicity, chemical resistance and wiping potency. The data is based on Examples 1, 2 and 3 and Comparative Examples 1, 2, and 3. Comparative Example 3 is comprised of polyacrylonitrile, vinyl acetate and PVA resin and does not have good chemical resistance. Therefore Applicant provides support for stating that the fiber of Toray that is comprised of PVA, polyacrylonitrile and acrylonitrile-vinyl copolymer may not have good chemical resistance. However, Applicant's arguments are not commensurate with the scope of claims 1 and 21 because claims 1 and 21 do not recite the the fiber is exclusively made from PVA. As stated above, the preamble limitation is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and

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where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone.

11. Applicant's arguments are not persuasive with respect to dependent claims 25 and 26. The limitation that the fibers "consists essentially of polyvinyl alcohol" is not exclusive of other polymer components or blends and therefore the claims as written do not exclude an additional polymer component and would not exclude Toray from anticipating the invention. As Applicant's data presented in the specification and the arguments are evidence that a blend of polyacrylonitrile and PVA would not anticipate the current invention, Applicant's arguments are not commensurate with the scope of the claims because the claims do not recite the exclusive limitation that the fiber is only produced from PVA.

12. Applicant's arguments that the excellent properties of the claimed PVA fibers having the claimed dimensions is not disclosed or suggested in Toray, Ohmory et al and Howard. While Toray does not disclose the properties that the Applicant has presented in the specification and arguments, it is reasonable to presume that the properties of Toray would be inherent. As the properties are not claimed, this argument is not commensurate with the scope of the claims. As Ohmory and Howard teach the features of a process that fibrillates a polyvinyl alcohol fiber and teaches a filler material can be incorporated with a fibrous material, Ohmory and Howard present findings that one of ordinary skill in the art could have employed these techniques and the results of the combination would have been predictable.

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13. Applicant's argument's that Toray is outside the field of endeavor of the present invention because the fibers fo Toray are used as a paper substitute are not persuasive. A paper substitute can encompass a nonwoven fabric and therefore Toray is not considered outside the field of endeavor. A paper towel produced of synthetic fibers would be equated with a nonwoven fabric.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER STEELE whose telephone number is (571)272-7115. The examiner can normally be reached on Office Hours Mon-Fri 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S./
Examiner, Art Unit 1794

/Elizabeth M. Cole/
Primary Examiner, Art Unit 1794

10/23/2008